**Manchester Institute of Biotechnology - Risk Assessment**

TUOM_4COL

| Date:  Nov 2014 | Assessed by:  Robin Hoeven | Validated by:  Tanya Aspinall | Location:  MIB Atruim |  | Review date:  November 2015 |
| --- | --- | --- | --- | --- | --- |
| Task/Premises:   |  | | --- | | Public engagement activity: "MIB Open Day"  Interactive Science Stands - Stand Name: Photobiology  Plant pigment extract in Acetone will be provided. Students will spot TLC plates, which are then handled and run by demonstrators  Robin Hoeven and Nataliya Archipowa in overall charge.  Volunteers involved in the session are ‘facilitators’ only.  All accidents to be reported to a First Aider and reported accordingly. | | | | | | |

| **Activity** | **Hazard** | **Person(s) in danger** | **Existing measures to control risk** | **Risk rating** | **Result** |
| --- | --- | --- | --- | --- | --- |
| Thin layer liquid chromatography of leaf extract | Solvents: |  | Solvent will be disposed of in non-halogenated chemical waste | Low | A |
| **Acetone (0.5 ml) –**  Highly flammable, irritating to eyes, repeated exposure may cause skin dryness or cracking, vapour may cause drowsiness and dizziness | Students only handle µl volumes  Demonstrators in charge of solvent chamber | No ignition source in proximity  Small, sealed volumes  PPE worn by demonstrators  Open well ventilated area | High | A |
| **Cyclohexane (0.7 ml) –**  Extremely flammable, irritating to eyes and skin, inhalation may cause CNS effects, may cause irritation of the respiratory tract, aspiration hazard if swallowed – can enter lungs when swallowed, very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment | Demonstrators in charge of solvent chamber | Separate COSHH forms completed for all chemicals used in the demonstration  No ignition source in proximity  Small, sealed volumes  PPE worn by demonstrators. The following items of PPE must be worn: Howie-style laboratory coat, BS EN374 compliant gloves (nitrile) and BS EN166 compliant eye protection (chemical splash proof safety glasses). A selection of safety glasses and goggles are available from MIB Stores; users are advised to visit Stores and select eye protection which fits well and is comfortable to use. Regular lab inspections monitor the wearing of PPE; users found not to be wearing PPE when the risk assessment states that it must be worn will be subject to the MIB compliance policy.  Adequate disposal; waste is removed to the labs and disposed of via MIB waste disposal procedures.  Inert absorbent material and closed container for disposal  Use in open well ventilated area | High | A |
| **Ethylacetate (0.5 ml) –**  Highly flammable, irritating to eyes, Repeated exposure may cause skin dryness/cracking, vapour may cause dizziness | Demonstrators in charge of solvent chamber | See above | High | A |
|  | **Methanol (0.2 ml) –**  Highly flammable, toxic by inhalation, in contact with skin and if swallowed | Demonstrators in charge of solvent chamber | See above | High | A |
|  | **Petroleum ether (3 ml) –**  Extremely flammable, harmful, may cause lung damage if swallowed, may cause cancer | Demonstrators in charge of solvent chamber | See above | high | A |
|  | **Glass capillary tubes –**  cuts | Students | Visual inspection prior to use to ensure that tubes are not damaged/cracked, etc.  Verbal warning to be careful | low | T |
|  | **Silica TLC plates –**  May cause irritation of the respiratory tract | Students, demonstrators | Wear Gloves, avoid dust formation | low | T |

|  |
| --- |
| **Authorisation by PI**  **I confirm that I have considered and understand the experiment and the associated hazards. I am satisfied that all of the hazards have been identified and that the control measures to be followed will reduce the risks to acceptable levels.**  **Print name: Signed:**  **Date:** |

**Declaration by researcher**

**I confirm that I have read this Risk Assessment and that I understand the hazards and risks involved and will follow all of the safety procedures stated. Where PPE has been identified as a control measure, I will ensure that it is worn.**

**Declaration by PI**

**I confirm that the researcher who has signed below is competent to undertake the work. My counter-signature indicates that I am happy for the work to proceed.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name (please print)** | **signed** | **PI countersignature** | **date** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |